

What is claimed is:

1. A method for monitoring operating conditions on rotating equipment which rotating equipment comprises a drive component having a rotating shaft and a driven component having a rotating part connected to said shaft, said rotating equipment including bearings therein which rotatably support said shaft and said rotating part thereon, the method comprising the steps of:

providing a temperature data collector having a temperature sensor;

defining temperature sensing locations on said rotating equipment, each said bearing having one of said temperature sensing locations associated therewith which said sensing location is disposed proximate to said bearing such that a surface temperature on said rotating equipment at said temperature sensing location indicates an operating temperature of said associated bearing;

performing a temperature data collection procedure on said rotating equipment, said temperature data collection procedure comprising the steps of manually positioning said temperature sensor adjacent said rotating equipment, detecting surface temperatures on said rotating equipment by temperature readings of said sensing locations through said temperature sensor, and storing temperature data from each said temperature reading in said data collector;

repeating said data collection procedure periodically over time; and

analyzing said temperature data by comparing each said temperature data from a last said temperature data collection procedure performed with reference temperature data to identify temperature increases in said rotating equipment indicating abnormal operating conditions of said bearings.

2. The method according to Claim 1, wherein said reference temperature data is defined by said temperature data of at least one prior said data collection procedure.

3. The method according to Claim 2, wherein a plurality of said prior data collection procedures are performed to generate said reference temperature data.

4. The method according to Claim 2, wherein said prior data collection procedure is defined by one said data collection procedure performed immediately prior to said last data collection procedure.

5. A method for monitoring operating conditions on rotating equipment which rotating equipment comprises a drive component having a rotating shaft and a driven component having a rotating part connected to said shaft, said rotating equipment including bearings therein which rotatably support said shaft and said rotating part thereon, said rotating equipment further including a process fluid and a primary seal arrangement preventing leakage of said process fluid along said shaft, said seal arrangement including passages therein containing a seal fluid, the method comprising the steps of:

providing a temperature data collector having a temperature sensor;

defining temperature sensing locations on said rotating equipment, said sensing locations being defined on said bearings and/or on said seal passages, each said temperature sensing location associated with a said bearing indicating an operating temperature of said associated bearing, and each said sensing location associated with a said seal passage indicating a temperature of said seal fluid;

performing a temperature data collection procedure on said rotating equipment, said temperature data collection procedure comprising the steps of manually positioning said temperature sensor adjacent said rotating equipment, detecting surface temperatures on said rotating equipment by temperature readings of said sensing locations through said temperature sensor, and storing temperature data from each said temperature reading in said data collector;

repeating said data collection procedure periodically over time; and

analyzing said temperature data by comparing each said temperature data from a last said temperature data collection procedure performed with reference temperature data to identify temperature increases in said rotating equipment indicating abnormal operating conditions of said bearings and/or said seal arrangement.